**Ecosystems and Communities Exam**

You will have approximately 50 minutes to complete this exam. If you have any questions stay in your seat and raise your hand. Please keep your eyes on your own paper; if you are caught cheating you will receive a zero on this exam.

**Section 1: Multiple choice**- Read each question carefully and then select the best answer. There is only one correct answer for each question. (2 pts each)

1. In a forest ecosystem, a population of blue jays is considered to be what type of ecological factor?

A. Abiotic B. Biotic

C. Predatory D. Pioneer

2. After a catastrophic event where the soil is replaced by ash and rocks (such as in a volcanic eruption), an ecosystem will experience which type of succession?

A. Secondary B. Evolutionary

B. Primary D. Destructive

3. While studying various warbler species living within a single tree, you notice that no two species feed in the same area of the tree. This is an example of…

A. The competitive exclusion principle B. Individualized niches

C. Species feeding preference D. Both A and B

4. The day to day fluctuations in the conditions of Earth’s atmosphere at a specific time and place is referred to as the \_\_\_\_\_\_\_\_\_\_\_\_, whereas the average conditions year after year are known as the \_\_\_\_\_\_\_\_\_\_\_\_\_.

A. Climate, Weather B. Temperate, Zone

C. Warming, Cooling D. Weather, Climate

5. The retention of heat in the atmosphere by the gases methane and carbon dioxide is known as the…

A. Aurora borealis affect B. Smokers effect

C. Greenhouse effect D. Catastrophic effect

6. Which of the following is **NOT** one of the three main climate zones on Earth?

A. Tropical B. Temperate

C. Polar D. Temporal

7. A prairie within Illinois is burned down due to a fire caused by lightning. What type of succession will occur within that prairie?

A. Primary succession B. Tertiary succession

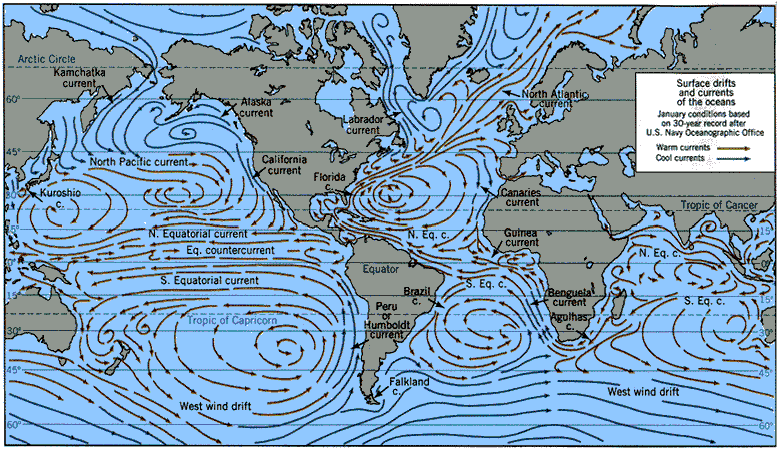
B. Catastrophic succession D. Secondary succession

8. Which biome contains the most species than all other biomes combined?

A. Tropical dry forest B. Tropical rain forest

C. Temperate grassland D. Temperate forest

Examine the map below and then answer question #9.



9. Global ocean currents tend to…

A. Flow clockwise in the northern hemisphere

B. Always flow from east to west

C. Flow counter-clockwise in the Southern hemisphere

D. A and C are both correct

10. The main difference between an organism’s habitat and its niche is…

A. Habitat is the role of an organism within an ecosystem.

B. Niche is the full range of requirements an organism needs to survive and reproduce.

C. Habitat is smaller while a niche is larger.

D. Niche and habitat mean the same thing.

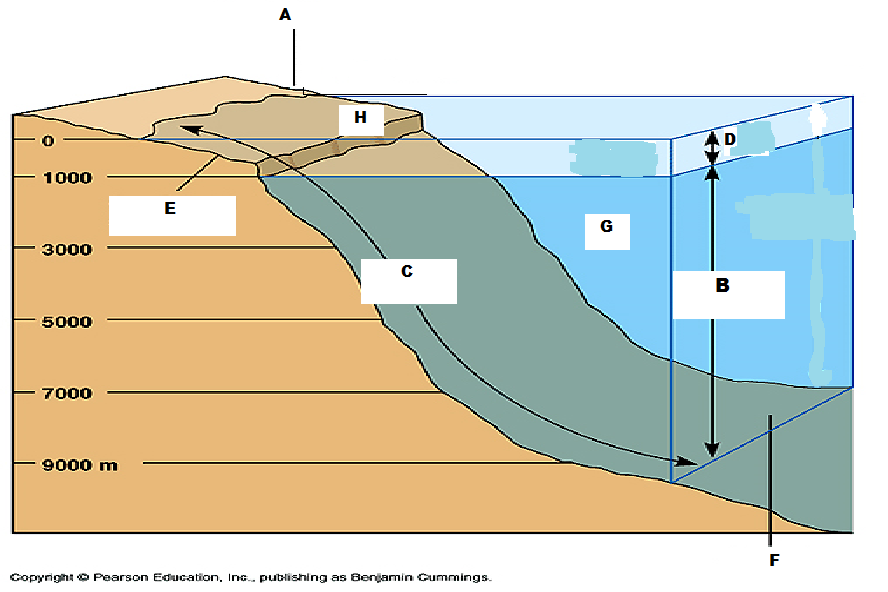
**Section 2- Short Answer**- For each question, please write out your answer using complete sentences. (3 pts each)

11. How does latitude factor into determining the climate of a given area on Earth?

12. What types of plankton would you expect to find in a standing water ecosystem? Explain the differences between them.

13. What similarities are there between salt marshes and mangrove swamps?

**Section 3- Matching**: Using the ocean diagram below, match each letter in the diagram with the appropriate feature. Each letter will only be used once. (2 pts each)



14. Aphotic zone\_\_\_\_\_\_\_\_\_ 15. Benthic zone\_\_\_\_\_\_\_\_\_\_

16. Abyssal plain\_\_\_\_\_\_\_\_\_\_ 17. Intertidal zone\_\_\_\_\_\_\_\_\_\_

18. Continental shelf\_\_\_\_\_\_\_\_ 19. Photic zone\_\_\_\_\_\_\_\_\_\_

20. Costal ocean\_\_\_\_\_\_\_\_\_\_\_ 21. Open ocean\_\_\_\_\_\_\_\_\_\_

**Section 4- Essay**: Answer the question below using complete sentences. If you need additional room you may write on the back of this page. (10 pts)

During this unit we discussed several types of interactions within communities including symbiosis. Define symbiosis and then identify the three types of symbiosis and provide examples for each.